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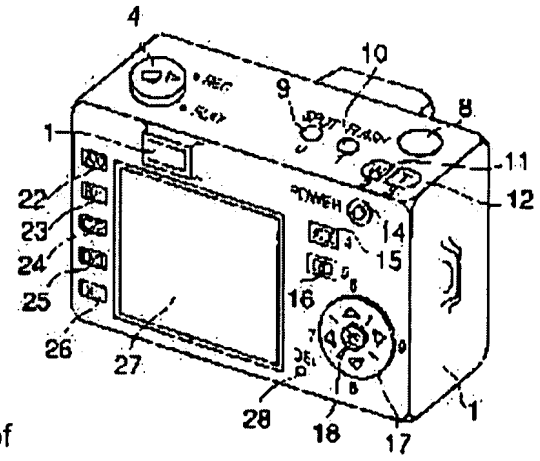
(54) ELECTRONIC CAMERA

(57)Abstract:

PROBLEM TO BE SOLVED: To solve the problem of the conventional technology where electronic camera has the function for giving secrecy for a plurality of users to use it by turns becoming a large system or requiring the users to have removable memory cards and to meeting the needs of sorting images in photographing, according to photographed scene or purpose, and filing them in memory.



SOLUTION: The electronic camera provides passwords for photographers one to one and stores them together with taken image information, thereby keeping secrecy of the images, even when a plurality of photographers use the one camera. This enables photographing while skipping inputting of the password by each photographer and deals with the snap shooting, thereby selecting according to the shooting condition on the spot. It controls image information by photographers or classes to reproduce images one after another, as needed, and detects the fingerprint of a user, instead of the password input, thereby simplifying the process of identifying the photographer.

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* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the security system of the electronic camera which can carry out regeneration of the photoed screen.
[0002]
[Description of the Prior Art] reproducing the image picturized by easy actuation in the camera carrying the image sensor which generally obtains an image electrically, for example, an electronic camera etc., with the monitor and external monitor in which it was prepared at the camera tooth back **** -- a personal computer -- outputting -- album-izing -- image edit can be carried out.
[0003] Although storage capacity of memory for image storage carried in the latest electronic camera can increase and joint use of one set of the electronic camera can be carried out by two or more users, since it is easily reproducible, while not knowing, others other than a photography person may be reincarnated, and may see, or it may be copied. That is, if there are an image not to see and an image to make it secret or the image which he photographed, and the image which others photographed are mixed, even if it is a family, when transmitting to a personal computer, if an image is performed with delivery in order, an activity will take time amount and it will become troublesome. Moreover, when taking time and effort, and it is not the photograph taken by itself, it does not understand [since sequential playback cannot be carried out in playback,] anymore in what photograph for a moment.
[0004] Then, various systems for others and those who do not mean to prevent from reproducing are carried in the electronic camera. For example, JP,11-275421,A has indicated the system of a rental-type electronic camera as 1st conventional technique. In order to gather the recovery of the lent-out electronic camera, when reproducing the image and image which were photoed, if it does not carry into a rental agency or a manufacturer's lab, it is the structure of which security cannot be canceled.
[0005] Moreover, as 2nd conventional technique, when a photograph is taken with the remote control which can transmit user ID (user-identification sign) to the electronic camera installed in the facility, an image and ID are memorized by JP,2000-023015,A in a pair, and are classified and printed out for every ID in the service store in a facility. If a password is entered and it is not in agreement as 3rd conventional technique so that anythings other than an owner cannot take a photograph without notice to JP,11-119326,A, the camera which a lock function whose photography is impossible attached is proposed.
[0006] Furthermore, the technique which switches the function of a carbon button to an application for patent 2000-114200 according to the finger which detected a photography person's fingerprint, and identified and touched the fingerprint, using a special sensor as 4th conventional technique is proposed by these people.
[0007]
[Problem(s) to be Solved by the Invention] However, in the 1st and 2nd conventional technique mentioned above, it is difficult to build a big system which applies to an electronic camera for home use, and is described. Moreover, even if the storage capacity of the memory for image storage carried in an

electronic camera increased, when the time of one set of the electronic camera is carried out and it is carried out using two or more users, it cannot transmit to a personal computer immediately after photography, or cannot sometimes output to a printer, and the contents of memory cannot sometimes be erased. However, possessing the memory card which each user can detach and attach freely separately also has much futility. Moreover, even if it owns the electronic camera individually, since the photography image is simply memorized by memory in order of photography, it classifies an image according to a photography scene or the purpose of photography at the time of photography, and also has a demand to file in memory.

[0008] Then, the storage and playback display which were classified according to the photography purpose or the photography scene at the time of photography are possible, and this invention aims at offering the electronic camera which performs playback and a transfer for the corresponding image only about the user who registered at the time of photography.

[0009]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, when the above-mentioned password is entered by means enter the password formed in the electronic camera which picturizes an image with an image sensor and records image information on a record medium since a photography person was specified, and the above-mentioned input means, in case this invention records the photoed image information on the above-mentioned record medium, it offers the electronic camera which adds and records a password.

[0010] Moreover, picturize an image with an image sensor and it sets to the electronic camera which records image information on a record medium. When the password which discriminates the photography person of the above 1st from an input means to enter the password which identifies the 1st photography person, before photography is entered In case the photoed image information is recorded on the above-mentioned record medium, the password of the photography person of the above 1st is added and recorded. When a photograph is taken without on the other hand entering the password which identifies the photography person of the above 1st, in case the photoed image information is recorded on the above-mentioned record medium, the electronic camera which adds and records the 2nd different photography person information from the photography person of the above 1st is offered.

[0011] Furthermore, picturize an image with an image sensor and it sets to the electronic camera which records image information on a record medium. When a password is entered as a means to enter the password formed since a photography person was specified, before photography In case the photoed image information is recorded on the above-mentioned record medium, a password is added and recorded, and when a photograph is taken on the other hand, without entering a password, the electronic camera recorded without adding a password, in case the photoed image information is recorded on the above-mentioned record medium is offered.

[0012] When a password is formed according to a photography person, image information is recorded and there is no input of the password at the time of image reconstruction, the electronic camera of the above configurations can carry out neither playback nor read-out, but secrecy is ******. Moreover, priority is given to photography over the required scene of snapshot nature, although it also boils omitting and photoing the input of a photography person exception or a password and confidentiality is lost more. Furthermore, image information is managed a photography person exception or according to a classification, and only an image required at the time of image reconstruction is sorted out and reproduced.

[0013]

[Embodiment of the Invention] Hereafter, the operation gestalt of this invention is explained to a detail with reference to a drawing. The appearance configuration of the electronic camera concerning the 1st operation gestalt by this invention is shown in drawing 1 and drawing 2 , and it explains to them. First, the concept of the electronic camera of this operation gestalt is explained. After power switching off this electronic camera, it is set as photography mode (REC). The sequential input of photography person information (A-D) and the password is carried out after this setup, and it changes into the condition which can be photoed.

[0014] For example, as the mode in which greater importance is attached than to confidentiality to snapshot nature, if "X" is inputted into photography person information, the mode in which it becomes treatment called the image which does not need the input of a password but can be seen also by whom can be considered. Thus, if a photograph is taken without a setup of photography person information or a password, it will process by setting photography person information to "X."
[0015] And if a registration setup of the password is not carried out beforehand, it becomes a registration setup of the new password which setting actuation in photography mode mentions later. Photography person information (A-D or X) and password information are matched, and the image photoed after the password input is memorized. However, if the password registered beforehand and the entered password do not agree, it will be in a photography prohibition condition. However, the input of a password is unnecessary if a playback mode (PLAY) is chosen without entering a password and once turning off the power switch of a camera.
[0016] If the power switch of a camera is turned ON at the time of playback and it is made a playback mode (PLAY), the image of photography person information "X" will be displayed first. Photography person information (A-D) is inputted and a password is entered. If the password registered beforehand and the entered password do not agree, it becomes prohibition of playback. If a password is right, the image according to photography person information (A-D) will be displayed. Moreover, when photography person information "X" is inputted, the input of a password is not needed, but the image according to photography person information "X" can be reproduced. An image is made into passing <a thing> on or backward feed one by one by the operating button of "the top and the bottom" mentioned later, or "the left and the right", and renewal of a display is carried out. anyone to whom photography person information "X" does not have the need for a password -- photography -- it is a refreshable guest version.
[0017] Drawing 1 shows the appearance configuration which looked at the camera transverse-plane side from on slant, and drawing 2 is drawing showing the appearance configuration which looked at camera back from slant from on slant.
[0018] The mirror frame 2 has been arranged in the center of a transverse plane of the body 1 of a camera, and this electronic camera is equipped with the lens system 3 which consists of a zoom lens used as the lens for a focus and variable power optical system used as photography optical system in this mirror frame 2. Moreover, the flash plate 5 for emitting light in a fill-in flash, when a photography scene is dark above a mirror frame 2, The finder object aperture 6 and the active ranging aperture 7 of the ranging section which irradiates infrared light and detects the distance to a photographic subject towards a photographic subject using triangular ranging from whenever [angle-of-incidence / of the reflected light], When a photograph is taken in self-timer mode, the self-timer lamp aperture 13 which tells a photographic subject about time amount progress is put in order and arranged, and on the left-hand side of a mirror frame 2 (setting in the direction which goes to space), the aperture 29 for fingerprint detection which makes it take over with a fingerprint is arranged instead of a password input. This can make it collate by detecting a fingerprint, if a photography person's finger is applied to the aperture 29 for fingerprint detection at the time of a password input.
[0019] Moreover, the control lever 4 which sets the mode of operation of cameras, such as a photography recording mode of "REC", and a playback mode of the record image of "PLAY", to the top face of the body 1 of a camera, Shutter ** 8 which consists of two steps of switches which perform photography housekeeping operation, such as ranging and a photometry, by half-push, and take a photograph by all push, It is mode ** for making ranging and a photometry perform with the narrow field angle of only the center of composition. At the time of a password input It is possible spot ****** 9 which makes the input key of "0" serve a double purpose, and to switch one flash plate mode of the bans on automatic luminescence, automatic luminescence with a bloodshot-eyes mitigation function, compulsive luminescence, and luminescence, whenever it pushes. At the time of a password input, a zoom lens is operated to a wide angle side (the wide direction) with flash plate mode ** 10 which makes the input key of "1" serve a double purpose. At the time of a password input It is made to operate to a zoom down ** [which makes the input key of "2" serve a double purpose] 11, and zoom lens looking-

far-side (the tele direction), and zoom-in ** 12 which makes the input key of "3" serve a double purpose is arranged at the time of a password input. And the connector 30 for a communication link for carrying out the communication link with external instruments, such as a personal computer and a printer, to the right lateral seen from the transverse plane of the body 1 of a camera is arranged, and the strap installation section is prepared in each side face.

[0020] As shown in drawing 2 , the monitor section 27 which is from the liquid crystal display panel for reproducing the image and the image which carried out photography record under photography on the tooth-back side of the body 1 of a camera is arranged. At the time of mode setting, the item set up by menu-driven on the display screen is displayed, and a selection decision is made with the cross-joint operating button 17 and a decision button 18, looking at this display.

[0021] On the left-hand side of this monitor section 27 (setting in the direction which goes to space), the setting buttons 22-26 for making the input of "0" - "3" serve a double purpose at the time of the selection from photography person information "A, B, C, D, X" or a setup of classification information, and a password input are arranged.

[0022] Selection of the menu furthermore displayed on the right-hand side of the monitor section 27 by the monitor section 27 by the depression in four directions to the matter of choice, Passing <a thing> on and backward feed are directed for the piece of the image by which it was indicated by playback. At the time of a password input "6" The cross-joint operating button 17 which makes the input key of - "9" serve a double purpose, and the decision button 18 which the matter chosen by the cross-joint operating button 17 is determined, and makes the input key of "4" serve a double purpose at the time of a password input, The power switch 14 which a power source turns on and off by the depression, and mode ** 15 used together with the cross-joint operating button 17 and a decision button 18 when setting up photography mode, the resolution of an image sensor, etc. in the menu displayed on the monitor section 27, A password and DEL ** 28 which eliminates the image corresponding to it are arranged initiation of the timer photography at the time of photography, self-timer ** 16 which makes the input key of "5" serve a double purpose at the time of a password input, and by operating it after a photography person information setup or a classification information setup. Moreover, the finder eyepiece aperture 21 is arranged above the monitor section 27.

[0023] The block configuration of the electronic camera of this operation gestalt is shown in drawing 3 , and it explains to it.

[0024] The control unit 31 for dividing this electronic camera roughly into a block, and controlling actuation of a camera, The switch group 80, and ranging and the photometry section 81 for making various setup, decision, etc., Photo electric conversion of the photographic subject image in which image formation was carried out by optical system, and the lens mechanical component 82 and optical system is received and carried out. The display 83 for displaying the image sensor 36 which generates a picture signal, the photoed image, and the information about photography, It consists of the storage section 84 which memorizes the information about an image and a camera etc. although a photograph was taken, a fingerprint detecting element 85 which detects fingerprints, such as a photography person, LED49 for self-timers, and an external communication circuit 76 for outputting the photoed image to an external personal computer and an external printer.

[0025] In detail, a control device 31 consists of one chip microcomputers, and controls actuation of the whole camera. The interior of this one chip microcomputer is equipped with functions, such as ROM which stores the oscillator circuit, reset circuit, and program other than CPU at least, RAM for an operation, IO port, two or more timer circuits, and a serial communication port.

[0026] Moreover, ranging and the photometry section 81 consist of charge to the Maine capacitor 33 for stroboscope luminescence, a stroboscope charge luminescence circuit 32 which performs luminescence with the Xe tubing 34, and an AF circuit 35 which measures the distance to a photographic subject by the triangular ranging method with the active AF method by infrared light. Moreover, the picture signal which the image sensor 36 outputted is changed into image information with a control unit 31.

[0027] The lens drive 38 for a focus containing a gear train and LD motor for optical system and the lens mechanical component 82 to move the lens 39 for a focus, and the lens 39 for a focus within a mirror

frame 2, The lens drive circuit 37 for a focus which drive control is carried out [circuit] and makes the lens drive 38 for a focus focus according to the amount of drives computed based on the photographic subject distance information from the AF circuit 35, A zoom lens 42 and the zoom lens drive 41 containing the gear train and ZM motor for moving a zoom lens 42 within a mirror frame 2, It consists of zoom lens drive circuits 40 which drive control of the zoom lens drive 41 is carried out [circuits] according to actuation of zoom ** 11 and 12, and carry out variable power of the photography scale factor.

[0028] A display 83 consists of a liquid crystal display panel (LCD) 44 of the monitor section 27 for displaying the information about the photoed image, the menu of photography conditioning, and the password for photography person discernment etc., and a LCD drive circuit 43 for making LCD44 drive.

[0029] It consists of nonvolatile memory 46 the memory 45 for image storage for memorizing the image information picturized with the image sensor 36 and the photography information corresponding to the image information, the status information of a camera, a user's setting information, storage in photography mode, the adjustment values at the time of factory shipments, etc. are remembered to be. Moreover, LED49 for self-timers is arranged at the self-timer lamp aperture 13, and in order to notify of time amount until it pushes self-timer ** 4 and a shutter is turned off during photography with self-timer mode, it notifies of it by luminescence.

[0030] The fingerprint detecting element 85 consists of a floodlighting component (LED) 51 which irradiates the illumination light at a photography person's finger through the lens 77 arranged in the fingerprint detection aperture 29 attached in the body 1 of a camera, and a lens 77, an area sensor 52 which incorporates the fingerprint image reflected with the finger 53, and a fingerprint detector 50 which detects by the area sensor 52 and performs an image processing to a fingerprint image, and after an image processing is carried out, it is sent out to a control unit 31. The switch group 80 consists of two or more switches formed in the body 1 of a camera, and those switch signals are sent out to a control unit 31. There are the following as these switches.

[0031] The switch 54 which makes the mode-of-operation dial 4 the "REC" side, and turns it on in case the usual photography actuation (photography mode) is performed (RECSW), The switch 55 which turns on the mode-of-operation dial 4 by the "PLAY" side in OFF of RECSW54 in case playback actuation (playback mode) of the photoed image is performed (PLAYSW), The switch 56 which turns a power source on and off whenever it carries out the depression of the power switch 14 (PWSW), The switch (1RSW) 57 switch on by the half-push of shutter ** 8, and the switch 58 which carries out all ****** ON further from this half-push (2RSW), The switches 59-63 which will be turned on if the depression of the setting buttons 22-26 of photography person information "A, B, C, D, X" is carried out (A-SW, B-SW, C-SW, D-SW, X-SW), The switch (MODSW) 64 switch on if the depression of mode ** 15 is carried out, the switch (SLFSW) 65 which carries out the depression of self mode ** 16 and switch on, and ** are prepared.

[0032] Furthermore, the switch 66 which pushes and turns on the upper trigonum of the cross-joint operating button 17 (UP-SW), The switch 67 which pushes and turns on the left trigonum of the ** (LT-SW), The switch 68 which pushes and turns on the bottom trigonum of the ** (DN-SW), The switch 69 which pushes and turns on the right trigonum of the ** (RT-SW), The switch (EX-SW) 70 which pushes and turns on a decision button 18, and the switch 71 which pushes and turns on spot ** 9 (SPTSW), The switch 72 which pushes and turns on brush mode ** 10 (FLSSW), It has the switch (ZDSW) 73 which pushes and turns on zoom down ** 11, the switch (ZUSW) 74 which will be turned on if the depression of zoom-in ** 12 is carried out, and the switch (DELSW) 75 which pushes and turns on DEL ** 28.

[0033] Drawing 4 shows an example of the display to which the input of the photography person information displayed on the monitor section 27 is urged. This display will be displayed on the monitor section 27, if the power switch 14 is turned on or the mode setting of a mode of operation 4 is changed. And for example, the setting button 22 as shown in drawing 5 is chosen, and a photography person operates it according to this display. Here, a photography person chooses "A" and shows that the selector button 22 was pushed. Although five selector buttons which specify photography person

information are prepared with this operation gestalt, this number does not interfere, even if it fluctuates.
[0034] Photography person information "A" A password is added with selection of - "D." However, a password cannot be added when photography person information "X" is chosen. Therefore, it may try and photograph, anyone may see in photography like [instead of a ** memorandum], and usage that elimination of an image can also be performed easily can be done. In the input screen of the photography person information displayed on the monitor section 27, when ** other than selector button 26 of selector button 22of "A" - "X" are operated, in order to give priority to photography, processings, such as an input of photography person information and an input of the password following it, are excluded, and perform actuation in connection with photography for photography person information as treatment of "X."
[0035] Drawing 6 shows an example of the display to which the input of the password displayed on the monitor section 27 is urged. Here, the example which enters a password in five digits is shown. Although the digit count was set to 5 in this example of an input, if it is about 3-8 figures, there will be no use top un-arranging. Moreover, although it is an input setup of 5 figures, triple figures are inputted, and even if it pushes a decision button 18, you may change so that it may operate normally.
[0036] Moreover, a decision button 18 is equivalent to the "Enter" key in the keyboard of a personal computer, and the input of a figure can make other operating buttons make it serve a double purpose, when there is no tooth space which arranges general "ten key" in a camera. An example made the operating button and the numerical keypad use also [example] is shown in drawing 7 (a). In this example, two or more kinds of ** are assigned to one figure. Of course, you may make it correspond to 1 to 1. Moreover, if it thinks as right alter operation in order to usually hold a camera with the left hand, it is also useful to centralize an operating button and to arrange. Drawing 7 (b) shows an example of the input by the photography person to the input display shown in drawing 6 . Here, a photography person inputs five digits "7, 2, 6, 9, 5", and does the depression of the decision button 18 to the last.
[0037] The Maine sequence of a camera is explained with reference to the flow chart shown in drawing 8 . If loaded with the cell which is not illustrated to a camera, a control unit 31 will start, a reset circuit will work, and it will perform from the head of the program written in the ROM field inside equipment. And a register required for processing of a control device 31, a stack pointer, RAM (work area for an operation), IO port, etc. are initialized (step S1). At this time, the adjustment data memorized by nonvolatile memory 46 are developed to RAM of the control unit 31 interior. Then, a drive is initialized (step S2). Since it happens also when the electromotive force of a cell declines and it becomes impossible operating this working [a camera], it needs the actuation which returns a camera to an all seems well at re-loading of a cell.
[0038] And it judges whether it is the no by which the power switch 14 is turned on (step S3). Here, if the power switch 14 (PWSW56) does not turn on and (NO) and this standby condition are maintained and turned on (YES), the mode switch 4 of operation will judge whether RECSW54 turns on (does PLAYSW55 turn off or not?). If RECSW54 turns on these switches, PLAYSW55 shall turn off another side, when either turns on as turned off.
[0039] By this decision, if RECSW54 turns on (YES), it will be set as "REC" mode and a subroutine "record" will be called (step S5). On the other hand, if PLAYSW55 turns on, it will be set as (NO) and "PLAY" mode and a subroutine "playback" will be called (step S6).
[0040] Next, with reference to the flow chart of drawing 9 and drawing 10 , the subroutine "record" in the above-mentioned step S5 is explained.
[0041] First, when the power switch 14 is turned off and it is set as the standby condition or the playback mode, in order to improve the portability of a camera, drive control of the LD motor 38 and the ZM motor 41 is carried out, and it is changing into the condition which was made to collapse a mirror frame and which cannot be photoed. While "record" mode is chosen for this, the LD motor 38 and the ZM motor 41 drive a mirror frame to hard flow, and make it shift to the condition which can be photoed with the time of collapsing (step S11).
[0042] Next, it will be in the state waiting for an input of photography person information (step S12). As shown in drawing 4 , this condition displays the waiting screen for an input of photography person

information on the monitor section 27, and stands by alter operation. And it judges whether the input had an input of those other than photography person information (step S13), when it is an input by switches other than A-SW59 - X-SW63, (YES) and a photography person judge it as the thing which wants to take a photograph immediately, password input process is omitted as treatment of "X" of a default, and photography person information is shifted to the next processing (step S14). furthermore, it judges whether photography person information "X" was inputted by actuation of X-SW63 (step S15), and X-SW63 operates it -- having -- ** (YES) -- the input process of a password is omitted similarly.
[0043] next, when there is no actuation of X-SW63, the input of a password is stood by, as it is alike, it shifts and the input process of (NO) and a password was shown in drawing 6 (step S16). Here, it distinguishes whether shutter ** 8 was pushed and 1RSW was turned on, (step S17) and when it is turned on, the input process of (YES) and a password is interrupted, and it shifts to step S14. When not turned on, it judges whether the password is already entered into the photography person information except (NO) and "X" inputted at step S12 (step S18), and if it is the first password (YES), it will be judged as new registration, it will match with photography person information to nonvolatile memory 46, and a password will be registered (step S19). However, if it is not the first password, it will be regarded as (NO) and the already registered thing, and will judge whether the entered password and the password registered beforehand collate (step S20). Here, if not in agreement, it returns to (NO) and step S12, and again, processing is repeated and is performed. On the other hand, if in agreement (YES), photography mode input process, such as various mode changes when spot mode ** 9, flash plate mode ** 10, mode ** 14, and self mode ** 16 are pushed, will be performed (step S21).
[0044] Next, when zoom down ** 11 and zoom-in ** 12 are pushed, the ZM motor 21 is controlled to forward hard flow, and processing which carries out a zoom drive is performed (step S22). Then, it judges whether the key which inputs photography person information was pressed (step S23), and if pushed (YES), it will return to step S15 and will process again. However, if not pushed, (NO) and shutter ** 8 will be pushed and 1RSW57 will judge ****** under ON.
[0045] In this decision, if 1RSW57 does not turn on, it shifts to (NO) and step S36 mentioned later. On the other hand, if turned on (YES), active ranging by the AF circuit 35 will be performed, and the distance to a photographic subject will be detected (step S25). Furthermore, based on the acquired photographic subject distance, the amount of deliveries of the lens 39 for a focus is calculated and calculated (step S26). Moreover, the strength of the light is measured in a field by the photometry circuit which is not illustrated, and field brightness is detected (step S27).
[0046] Next, the sensibility of the image sensor at the time of picturizing with an image sensor 36 from the field brightness obtained at step S27 by the control unit 31 and imaging time are determined (step S28). In the case of this data processing, when field brightness is below a predetermined value, a stroboscope luminescence flag is set up so that stroboscope luminescence may be performed at the time of exposure, and the amount of luminescence of a stroboscope is computed from the field distance found at the above-mentioned step S25, and the f number at the time of an image pick-up. And shutter ** 8 is pushed further, judge whether 2RSW58 was turned on (step S29), judge whether 2RSW58 is turned on and ****** (NO)1RSW57 is turned on, and if turned on It stands by that return 2RSW58 is turned on by step S29, and if 1RSW57 is not turned on, it shifts to (NO) and step S36 mentioned later. On the other hand, if 2RSW58 is turned on (YES), it will obtain and let out at step S26, and will let out the lens 39 for a focus based on an amount (step S31).
[0047] Furthermore, an image sensor 36 is controlled and it picturizes on the image pick-up conditions by the sensibility and imaging time which were acquired at step S28 (step S32). A stroboscope is made to emit light, if the stroboscope luminescence flag is set up at this time, controlling the stroboscope charge luminescence circuit 32 during an image pick-up, and controlling the quantity of light of a stroboscope based on the amount of luminescence calculated at step S28. And the picture signal which the image sensor 36 generated is read, and it changes into image information (step S33). Next, photography person information and a password are added to the image information read and changed, and it records on the memory 45 for image recording (step S34).
[0048] And if stroboscope luminescence is performed at the time of an image pick-up, stroboscope

charge / luminescence circuit 32 will be controlled, and it will charge at the Maine capacitor 33 for stroboscopes (step S35). Of course, if stroboscope luminescence has not been carried out, it shifts to the following step as it is. Next, it judges whether the power switch 14 (PWSW56) is turned on (step S36). If the power switch 14 is not turned on, the display of (NO) and the monitor section 27 is erased, and a mirror frame is made into a collapsed state (step S37). And this subroutine is ended and a return is carried out to a main routine. On the other hand, if the power switch 14 is turned on (YES), the mode of operation by which judges the on-off condition of RECSW54 and a current setup is carried out will be detected (step S38). If RECSW54 is turned on by this decision (YES), it will return to step S21, and processing will be repeated and performed again, and if OFF 55, i.e., PLAYSW, turns on, RECSW54 will end (NO) and this subroutine and will carry out a return to a main routine.

[0049] Next, with reference to the flow chart of drawing 11 , the subroutine "playback" in the above-mentioned step S6 is explained.

[0050] First, after operating the "X" selector button 26 and confirming default photography person information "X", the image of the photography person information on a small frame number "X" is given priority to and displayed (step S41). Next, the input screen of photography person information is displayed and it judges whether the input of photography person information was stood by and inputted (step S42). Here, when not the photography person information SW but the other input of SW is carried out, it shifts to (NO) and step 48 mentioned later. On the other hand, if photography person information is inputted (YES), it will be in a standby condition about the input of a password, and a password will be entered by the photography person (step S43). However, a password input will be interrupted if ** which is unrelated to the input of a password is pushed. If it judges whether DELSW75 was turned on instead of the input of a password at this time (step S44) and DELSW75 is turned on (YES), according to the photography person information that it was inputted at step S42, the password memorized by nonvolatile memory 46 and the corresponding image memorized by the memory 45 for image storage will be eliminated (step S45), and it will return to step S41.

[0051] The password entered at (NO) and step S43 on the other hand if DELSW75 was not turned on, and the password registered are collated, and it judges whether it is in agreement (step S46). If collating is in agreement by this decision (YES), photography person information that it was inputted will be confirmed and the image corresponding to photography person information memorized will be displayed (step S47). However, if, and it judged whether the cross-joint operating button 17 was operated (step S48) and operated (YES), the next piece of the image of effective photography person information or the front piece will be indicated by sequential according to actuation (step S49).

[0052] And if it distinguished and turned on whether the power switch 14 (PWSW56) would be turned on (YES), the mode of operation by which judges the on-off condition of PLAYSW55 and a current setup is carried out will be detected (step S51). If PLAYSW55 is turned on by this decision (YES), it will return to step S42, and processing will be repeated and performed again, and if OFF 54, i.e., RECSW, turns on, PLAYSW55 will end (NO) and this subroutine and will carry out a return to a main routine.

[0053] Next, the modification of the 1st operation gestalt is shown in drawing 12 , and it explains to it.

[0054] Although the display of the selector buttons 22-26 of the photography person information shown in drawing 2 mentioned above used the alphabet "A", "B", and "X", it may be displayed by pattern which imitated family structure as shown in drawing 12 in simple.

[0055] Next, the electronic camera concerning the 2nd operation gestalt is explained. Although it was photography person information with the 1st operation gestalt, it is the example which applied classification information with this operation gestalt.

[0056] The power switch 14 of a camera is operated and a power source is turned ON. If a mode of operation is made into photography mode (REC) at this time, classification information (A-D, X) as shown in drawing 13 later mentioned in the monitor section 27 will be displayed.

[0057] If a photograph is taken by pushing and inputting either selector buttons 22-25 or the selector button 26 of "X" so that one may be chosen from these items, an image will be matched and remembered to be each classification information.

[0058] However, if a photograph is taken without inputting classification information (A-D), it will be regarded as what specified the photography information on "X", and photography information "X" is added and memorized. Moreover, if PLAYSW55 is turned on and it is set as "playback" mode, the image of classification information "X" will be displayed first. Moreover, also in the remaining classification information (A-D), the image according to the inputted classification information (A-D) is displayed. moreover, actuation of "the top and the bottom" or "the left and the right" in the cross-joint operating button 17 -- one by one -- passing <a thing> on -- or backward feed is carried out and a display image is updated.
[0059] The example of 1 display at the time of inputting classification information is shown in drawing 13 , and it explains to it. Since it is different in photography person each, it inputs beforehand and a name to classify can also be enabled it to register. With this operation gestalt, the method of an input procedure or registration is the same as that of the 1st operation gestalt mentioned above, and it omits giving and explaining an example here.
[0060] First, a photography person displays the classification name registered beforehand, and displays classification information on the monitor section 27. In the example shown in drawing 13 , the name "FILE 0" is set to the "A" selector button 22, and the name "works inspection" is set to the "B" selector button 23. Moreover, they are a "show" and the "D" selector button 25 with the "family travel" similarly at the "C" selector button 24.
[0061] Next, a subroutine "record" is explained with reference to the flow chart shown in drawing 14 and drawing 15 . In addition, the Maine sequence of a camera is equivalent to drawing 8 of the 1st operation gestalt mentioned above, and explanation here is omitted.
[0062] First, when the power switch 14 is turned off and it is set as the standby condition or the playback mode, in order to improve the portability of a camera, drive control of the LD motor 38 and the ZM motor 41 is carried out, and it is changing into the condition which was made to collapse a mirror frame and which cannot be photoed. While "record" mode is chosen for this, the LD motor 38 and the ZM motor 41 drive a mirror frame to hard flow, and make it shift to the condition which can be photoed with the time of collapsing (step S41).
[0063] Next, it will be in the state waiting for an input of classification information (step S42). As shown in drawing 13 , this condition displays the waiting screen for an input of classification information on the monitor section 27, and stands by alter operation. And it judges whether the input had an input of those other than classification information (step S43), and when it is an input by switches other than A-SW59 - X-SW63, (YES) and a photography person judge it as the thing which wants to take a photograph immediately, and set "X" of a default as classification information (step S64). On the other hand, when there is an input by the switch of A-SW59 - X-SW63, (NO) and the inputted classification information are set up (step S65).
[0064] And photography mode input process of various mode changes when spot mode ** 9, flash plate mode ** 10, mode ** 14, or self mode ** 16 is pushed is performed (step S66). Then, when zoom down ** 11 or zoom-in ** 12 is pushed, the ZM motor 41 is controlled to forward hard flow, and processing which carries out a zoom drive is performed (step S67). Next, it judges whether the key which inputs classification information was pressed (step S68). If the input key of classification information is pushed by this decision (YES), it will shift to step S65. On the other hand, if the input key is not pushed, it judges whether (NO)1RSW57 was turned on (step S69). if 1RSW57 is off here -- (NO) -- it mentions later -- step S81 HE shift is carried out. However, if turned on (YES), active ranging by the AF circuit 35 will be performed, and the distance to a photographic subject will be detected (step S70). Then, based on the acquired photographic subject distance, the amount of deliveries of the lens 39 for a focus is calculated and calculated (step S71). Moreover, the strength of the light is measured in a field by the photometry circuit which is not illustrated, and field brightness is detected (step S72).
[0065] Next, the sensibility of the image sensor at the time of picturizing with an image sensor 36 from the field brightness obtained at step S72 by the control unit 31 and imaging time are determined (step S73). In addition, in the case of this data processing, when field brightness is below a predetermined value, a stroboscope luminescence flag is set up so that stroboscope luminescence may be performed at

the time of exposure, and the amount of luminescence of a stroboscope is computed from the field distance found at the above-mentioned step S70, and the f number at the time of an image pick-up. And shutter ** 8 is pushed further and it judges whether 2RSW58 was turned on (step S74). If 2RSW(s)58 are turned on and it is [whether ****** (NO)1RSW57 continue being an ON state and] in an ON state (YES), it will stand by that return 2RSW58 is turned on by step S74. If 1RSW57 is turned off, it will shift to (NO) and step S81 mentioned later. On the other hand, if 2RSW(s)58 are turned on at step S74 (YES), it will obtain and let out and will let out the lens 39 for a focus based on an amount (step S76).

[0066] Furthermore, an image sensor 36 is controlled and it picturizes on the image pick-up conditions by the sensibility and imaging time which were acquired at step S73 (step S77). A stroboscope will be made to emit light if the stroboscope luminescence flag is set up at this time. And the picture signal which the image sensor 36 generated is read, and it changes into image information (step S78). Next, classification information is added to the image information read and changed, and it records on the memory 45 for image recording (step S79). And if stroboscope luminescence is performed at the time of an image pick-up, stroboscope charge / luminescence circuit 32 will be controlled, and it will charge at the Maine capacitor 33 for stroboscopes (step S80). If stroboscope luminescence has not been carried out, it shifts to the following step as it is.

[0067] Next, it judges whether the power switch 14 (PWSW56) is turned on (step S81). If the power switch 14 is not turned on, the display of (NO) and the monitor section 27 is erased, and a mirror frame is made into a collapsed state (step S82). And this subroutine is ended and a return is carried out to a main routine. On the other hand, if the power switch 14 is turned on (YES), the mode of operation by which judges the on-off condition of RECSW54 and a current setup is carried out will be detected (step S83). If RECSW54 is turned on by this decision (YES), it will return to step S66, and processing will be repeated and performed again, and if OFF 55, i.e., PLAYSW, turns on, RECSW54 will end (NO) and this subroutine and will carry out a return to a main routine.

[0068] Next, a subroutine "playback" is explained with reference to the flow chart shown in drawing 16 . In addition, the Maine sequence of a camera is equivalent to drawing 8 of the 1st operation gestalt mentioned above, and explanation here is omitted. First, after operating the "X" selector button 26 and confirming default classification information "X", the image of the classification information on a small frame number "X" is given priority to and displayed on the monitor section 27 (step S91). Next, the input screen of classification information is displayed and it judges whether the input of classification information was stood by and inputted (step S92). Here, when not the classification information SW but the other input of SW is carried out, it shifts to (NO) and step 94 mentioned later. On the other hand, if classification information is inputted (YES), the image of a small frame number will be displayed among the images memorized corresponding to the inputted classification information (step S93). Moreover, when displaying from the newest photography image, how to display from a large frame number is also considered.

[0069] Next, it judges whether the cross-joint operating button 17 was operated (step S94), and if operated (YES), the next piece of the image of effective classification information or the front piece will be indicated by sequential according to actuation (step S95). However, if it distinguished and turned on whether the power switch 14 (PWSW56) would be turned on (NO) or after carrying out image display if the cross-joint operating button 17 is not operated (YES), the mode of operation by which judges the on-off condition of PLAYSW55 and a current setup is carried out will be detected (step S96). If PLAYSW55 is turned on by this decision (YES), it will return to step S92, and processing will be repeated and performed again, and if OFF 54, i.e., RECSW, turns on, PLAYSW55 will end (NO) and this subroutine and will carry out a return to a main routine.

[0070] Next, the electronic camera concerning the 3rd operation gestalt is explained. This operation gestalt is the example which replaced the password input in the 1st operation gestalt mentioned above, and applied fingerprint detection. Drawing 17 is drawing showing the block configuration of the camera with which it had the fingerprint detecting element in this operation gestalt. Drawing 18 is the perspective view showing the example of arrangement of the notional component in fingerprint detection.

[0071] The floodlighting component 51 for which this fingerprint detecting element 85 emits light in the light for lighting, and the lens 91 which projects the light which emitted light from this floodlighting component 51 on the finger 53 carried on the fingerprint detection aperture 29, The area sensor 52 for fingerprint detection which changes into an electrical signal the light figure of the finger by which image formation was carried out with this lens 91, and is outputted as image data, A/D converter 92 which changes into digital image data the analog image data which this area sensor 52 for fingerprint detection detected, The image-processing circuit 93 which processes the digitized image data as compared with predetermined image data etc., It consists of finger class storage means slack image memory 94 which has memorized predetermined image data for this image-processing circuit 93 to compare, and a configuration part including the floodlighting component 51 and the image-processing circuit 93 is controlled by the control unit 31.
[0072] As shown in drawing 18 , as for the fingerprint detecting element 85, the lens 91 is arranged inside the fingerprint detection aperture 29. The floodlighting component 51 is arranged in a location which can irradiate light through this lens 91, and does not bar the image formation of the light figure of the finger to the area sensor 52 for fingerprint detection and which becomes horizontal ** and the bottom of ** slanting, for example. Furthermore, the area sensor 52 for fingerprint detection is arranged in the location which becomes the optical-axis top of a lens 91.
[0073] With reference to the flow chart shown in drawing 19 , "record" subroutine including fingerprint authentication processing is explained. In addition, the Maine sequence of a camera is equivalent to drawing 8 of the 1st operation gestalt mentioned above, and explanation here is omitted. Moreover, to the subroutine in the flow chart which explained "record" subroutine of this operation gestalt by drawing 9 and drawing 10 which were mentioned above, since the processing after step S20 is completely the same, as for the flow chart shown in drawing 19 , only the description part of this operation gestalt is shown, and the explanation is omitted as what has after [equivalent to "record" subroutine of the 1st operation gestalt] step S20. Moreover, the same step number is given to the step equivalent to the step shown in drawing 9 .
[0074] First, a mirror frame is made to shift to the condition which can be photoed (step S11), and it will be in the state waiting for an input of photography person information (step S12). and -- the case where it is an input judge whether the input had an input of those other than photography person information (step S13), and according to switches other than A-SW59 - X-SW63 -- (YES) -- password input process is abbreviated for photography person information to the ability of a photograph to be taken immediately as treatment of "X" of a default, and it shifts to step S21 (step S14). furthermore, it judges whether photography person information "X" was inputted by actuation of X-SW63 (step S15), and X-SW63 operates it -- having -- ** (YES) -- it shifts to step S21 similarly.
[0075] Next, when there is no actuation of X-SW63, (NO) and fingerprint authentication processing are performed (step S101). This fingerprint authentication processing will perform fingerprint detection, if the finger is applied to the fingerprint detection aperture 29. However, detection processing will be interrupted, if predetermined time passes after starting some key inputs and detection during detection processing. and -- if it judges whether it was in agreement with the fingerprint image beforehand remembered to be the detected fingerprint image in an image memory 94 (step S102) and is in agreement (YES) -- the input process of a password -- omitting -- the next step S21 HE shift -- it carries out. If the image remembered to be the detected fingerprint image on the other hand is not in agreement, the input of (NO) and a password is stood by (step S16). Here, it distinguishes whether shutter ** 8 was pushed and 1RSW was turned on, (step S17) and when it is turned on, the input process of (YES) and a password is interrupted, and it shifts to step S14. On the other hand, if not turned on, it judges whether the password is already entered into the photography person information except (NO) and "X" inputted at step S12 (step S18), and if it is the first password (YES), fingerprint registration processing which it is judged [processing] as new registration, it combines [processing] with photography person information, and makes a fingerprint image memorize will be performed (step S103). In neither a password nor fingerprint information being inputted, this new registration has judged that it is new registration to photography person information. In addition, in this processing, if predetermined time

passes after starting some key inputs and detection during processing, detection processing will be interrupted.

[0076] And it judges whether registration of a fingerprint image was completed (step S104), and if it becomes, (NO) and registration processing of a password will be performed, and it registers with the nonvolatile memory which registration does not complete and which matches with photography person information to nonvolatile memory 46, and registers a password (step S19). On the other hand, if registration is completed (YES), it will shift to step S20 and will judge whether the entered password and the password registered beforehand collate (step S20). Since subsequent sequences are equivalent to the processing after the step S21 which was mentioned above and which was shown in drawing 9 like, explanation is omitted.

[0077] Next, fingerprint authentication processing is explained with reference to the flow chart shown in drawing 20 . First, predetermined time (for example, 3 seconds) is set as a timer, and the time check of a timer is started (step S111). This timer stops, in case a subroutine is ended. It inputs into the image-processing circuit 93, after making the floodlighting component 51 emit light (step S112), carrying out photo electric conversion of the light figure of the illuminated finger, outputting image data from the area sensor 52 for fingerprint detection and changing into digital image data by A/D converter 92, if this fingerprint authentication processing is ****(ed) (step S113). This image-processing circuit 93 performs an image processing, for example, the extract of the description, for a fingerprint image, and performs the direction of a fingerprint for detection etc. (step S114).

[0078] Next, the image-processing circuit 93 reads the registration data already memorized in the image memory 94 (step S115), and performs collating with the inputted fingerprint image and the already registered fingerprint image data (step S116). It judges whether this collating result is in agreement (step S117), and when there is a match, the return of (YES) and the collating flag is set and (step S118) carried out. On the other hand, when there are no registration data in agreement in step S117, (NO) and a collating flag are cleared (step S119). However, when the result which was not in agreement is obtained, the fingerprint image is not detected correctly, that is, when a finger is not in a fingerprint detection aperture as **, a generating case also has the Rochon trust. It judges whether since this was considered by the fingerprint detection aperture in the finger also when **** timing was late, predetermined time passed (step S120). If predetermined time passes (YES), a return will be carried out and predetermined time will not have passed, (NO), If it judges whether the alter operation of a password occurs by the key stroke (step S121) and alter operation occurs (YES), a return will be carried out, if there is no alter operation, it will return to (NO) and step S112, and it floodlights again, and a fingerprint image is detected.

[0079] According to this operation gestalt, it becomes possible to exclude the input of a troublesome password by transposing the input process of a password to fingerprint authentication processing compared with the 1st operation gestalt mentioned above, and also on the relation of a tooth space, when the key which enters a password into a camera cannot be arranged, it is effective.

[0080] Next, registration processing is explained with reference to the flow chart shown in drawing 21 .

[0081] First, predetermined time (for example, 3 seconds) is set as a timer, and the time check of a timer is started (step S131). This timer stops, in case a subroutine is ended. And the floodlighting component 51 is made to emit light (step S132), it is outputted from the area sensor 52 for fingerprint detection, and the fingerprint image by which digital processing was carried out is inputted into the image-processing circuit 93 (step S132).

[0082] Next, this image-processing circuit 93 performs an image processing, for example, the extract of the description, for a fingerprint image, and performs the direction of a fingerprint for detection etc. (step S133).

[0083] And it judges whether the Rochon trust which judges whether the obtained fingerprint image was detected correctly, that is, is generated when a finger is not in a fingerprint detection aperture as ** occurred (step S135). It judges whether when the Rochon trust occurred (YES), since the fingerprint detection aperture considered the finger also when **** timing was late, predetermined time passed (step S136). If predetermined time passes (YES), in carrying out a return and not reaching

predetermined time, (NO), If it judges whether the alter operation of a password occurs by the key stroke (step S137) and alter operation occurs (YES), a return will be carried out, if there is no alter operation, it will return to (NO) and step S132, and it floodlights again, and a fingerprint image is detected.

[0084] Moreover, the Rochon trust does not occur in decision of step S135, but when a fingerprint image is detected correctly, an image memory 94 is made to memorize (YES) and fingerprint image data as registration data (step S138). Then, the display which shows the completion of registration of a fingerprint is performed in the monitor section 27 (step S139), and a return is carried out.

[0085] Even if two or more photography persons use one set of an electronic camera in order to form a password according to a photography person according to the 1st operation gestalt as explained above, there is effectiveness that the secrecy of an image can be kept. A photography person exception, it is also possible to also fly and photo the input of a password and it to be possible to give priority to photography in the required scene of snapshot nature, since it is possible, and to give priority to confidentiality on the other hand, and photography can be simply done according to the photography situation of an given occasion.

[0086] Since the troublesome actuation of making an image see, judge and skip in order to manage an image a photography person exception or according to a classification since the sequential playback only of the image required at the time of image reconstruction can be carried out is unnecessary and there is furthermore according to the 1st operation gestalt and the 2nd operation gestalt, the time amount concerning playback can be shortened. The effectiveness of the 3rd example can simplify specific processing of a photography person for the input of a troublesome password by fingerprint detection.

[0087] Although the above operation gestalt was explained, the following invention is also included in this specification.

[0088] (1) In the electronic camera which picturizes an image with an image sensor and records image information on a record medium A means to input the 1st photography person information, and a means to enter a password corresponding to the photography person of the above 1st, When the password corresponding to a means to input the 2nd photography person information, and before photography is entered as the 1st photography person information In case the photoed image information is recorded on the above-mentioned record medium, the photography person information on the above 1st and a password are added and recorded. On the other hand, the 1st photography person information Or the electronic camera characterized by what is recorded without adding with the 2nd photography person information and adding a password, after setting up the 2nd photography person information, when a photograph is taken without entering the corresponding password and the photoed image information is recorded on the above-mentioned record medium.

[0089] (2) When the playback display means which indicates the photoed image information by playback, the mode change-over actuation means which switches a photography recording mode and a playback display mode, and a playback display mode are set up the -- two -- photography -- a person -- information -- adding -- having had -- an image -- giving priority -- playback -- a display -- carrying out -- on the other hand -- playback -- a display mode -- the -- one -- photography -- a person -- information -- a password -- inputting -- having had -- a case -- **** -- inputting -- having had -- the -- one -- photography -- a person -- information -- a password -- agreeing -- an image -- playback -- a display -- carrying out -- the above -- (-- one --) -- a term -- a publication -- an electronic camera .

[0090] (3) The input of a password is an electronic camera given in the above (1) and (2) terms which are characterized by making the operating button of the electronic camera operated at the time of photography serve a double purpose.

[0091] (4) An operating button is an electronic camera given in the above-mentioned (3) term characterized by including at least one of a zoom operating button, photography mode **, self-timer mode **, and the cursor advance **.

[0092] (5) An electronic camera given in the above-mentioned (1) - (3) term characterized by using a fingerprint detection means for the input means of a password.

[0093] (6) An electronic camera given in the above-mentioned (1) - (3) term which interrupts password

input process and gives priority to photography actuation if shutter release ** is operated during a password input.

[0094]

[Effect of the Invention] As explained in full detail above, the storage and playback display which were classified according to the photography purpose or the photography scene at the time of photography according to this invention are possible, and the electronic camera which performs playback and a transfer for the corresponding image only about the user who registered at the time of photography can be offered.

[Translation done.]

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CLAIMS

[Claim(s)]
[Claim 1] The electronic camera characterized by adding and recording a password in case the photoed image information is recorded on the above-mentioned record medium, when the above-mentioned password is entered by means to enter the password formed in the electronic camera which picturizes an image with an image sensor and records image information on a record medium since a photography person was specified, and the above-mentioned input means.
[Claim 2] In the electronic camera which picturizes an image with an image sensor and records image information on a record medium When the password which discriminates the photography person of the above 1st from an input means to enter the password which identifies the 1st photography person, before photography is entered In case the photoed image information is recorded on the above-mentioned record medium, the password of the photography person of the above 1st is added and recorded. The electronic camera characterized by adding and recording the 2nd different photography person information from the photography person of the above 1st in case the photoed image information is recorded on the above-mentioned record medium, when a photograph is taken without on the other hand entering the password which identifies the photography person of the above 1st.
[Claim 3] In the electronic camera which picturizes an image with an image sensor and records image information on a record medium When a password is entered as a means to enter the password formed since a photography person was specified, before photography The electronic camera which carries out the description of what a password is added and recorded in case the photoed image information is recorded on the above-mentioned record medium, and is recorded without adding a password, in case the photoed image information is recorded on the above-mentioned record medium, when a photograph is taken on the other hand, without entering a password.
[Claim 4] The electronic camera according to claim 3 give priority in the playback display means which indicates the photoed image information by playback, the mode change-over actuation means which switches a photography recording mode and a playback display mode, and the image which is not added to a password when a playback display mode is set up, indicate by playback, and, on the other hand, indicate the image agree with the entered password by playback when a password is entered with a playback display mode.
[Claim 5] The camera according to claim 1 to 4 characterized by giving priority to photography actuation when photography actuation is performed even if it is during the alter operation of the above-mentioned password.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is drawing showing the appearance configuration which looked at the transverse plane of the electronic camera concerning the 1st operation gestalt from slant.
[Drawing 2] It is drawing showing the appearance configuration which looked at the back of the electronic camera concerning the 1st operation gestalt from slant.
[Drawing 3] It is drawing showing the block configuration of the electronic camera of the 1st operation gestalt.
[Drawing 4] It is drawing showing an example of the display to which the input of the photography person information displayed on the monitor section is urged.
[Drawing 5] It is drawing showing an example of a setting button.
[Drawing 6] It is drawing showing an example of the display to which the input of the password displayed on the monitor section is urged.
[Drawing 7] Drawing 7 (a) is drawing showing an example made the operating button and the numerical keypad use also [example], and drawing 7 (b) is drawing showing an example of the input by the photography person to the input display shown in drawing 6 .
[Drawing 8] It is a flow chart for explaining the Maine sequence of the electronic camera concerning the 1st operation gestalt.
[Drawing 9] It is a part for the first portion of the flow chart for explaining the subroutine "record" concerning the 1st operation gestalt.
[Drawing 10] It is the second half part of the flow chart for explaining the subroutine "record" concerning the 1st operation gestalt.
[Drawing 11] It is a flow chart for explaining the subroutine "playback" concerning the 1st operation gestalt.
[Drawing 12] It is drawing showing the modification of the 1st operation gestalt.
[Drawing 13] It is drawing showing the example of 1 display at the time of inputting the classification information in the electronic camera concerning the 2nd operation gestalt.
[Drawing 14] It is a part for the first portion of the flow chart for explaining the subroutine "record" concerning the 2nd operation gestalt.
[Drawing 15] It is the second half part of the flow chart for explaining the subroutine "record" concerning the 2nd operation gestalt.
[Drawing 16] It is a flow chart for explaining the subroutine "playback" concerning the 2nd operation gestalt.
[Drawing 17] It is drawing showing the block configuration of the camera with which it had the fingerprint detecting element in the 3rd operation gestalt.
[Drawing 18] It is the perspective view showing the example of arrangement of the notional component for explaining the fingerprint detection in the 3rd operation gestalt.
[Drawing 19] It is a flow chart for explaining the subroutine "record" concerning the 3rd operation gestalt.

[Drawing 20] It is a flow chart for explaining fingerprint authentication processing of the electronic camera concerning the 3rd operation gestalt.
[Drawing 21] It is a flow chart for explaining registration processing of the electronic camera concerning the 3rd operation gestalt.
[Description of Notations]
1 -- Body of a camera
2 -- Mirror frame
3 -- Lens system
4 -- Control lever
5 -- Flash plate
6 -- Finder object aperture
7 -- Active ranging aperture
8 -- Shutter **
9 -- Spot ******
10 -- Flash plate mode **
11 -- Zoom down **
12 -- Zoom-in **
13 -- Self-timer lamp aperture
14 -- Power switch
15 -- Mode **
16 -- Self-timer **
17 -- Cross-joint operating button
18 -- Decision button
21 -- Finder eyepiece aperture
22-26 -- Setting button
27 -- Monitor section
28 -- DEL **
29 -- Aperture for fingerprint detection
30 -- Connector for a communication link

[Translation done.]

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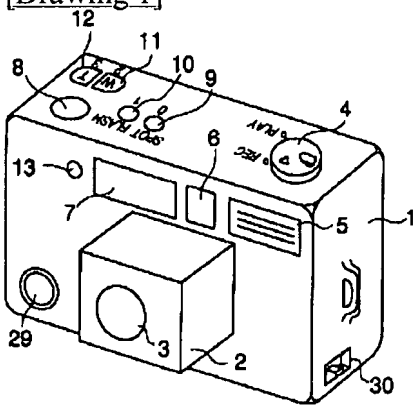
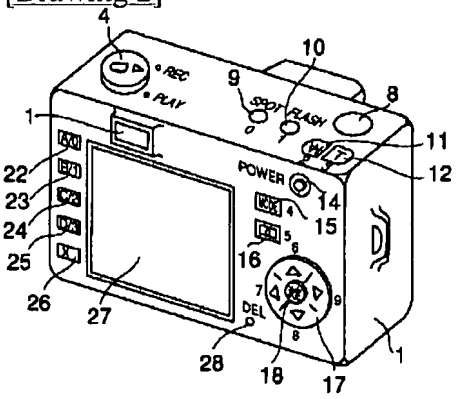
DRAWINGS

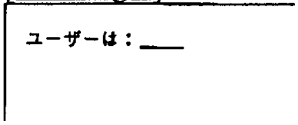
[Drawing 1]



[Drawing 2]



[Drawing 4]



[Drawing 5]

[Drawing 6]

パスワードは：_ _ _ _ _ _

[Drawing 7]

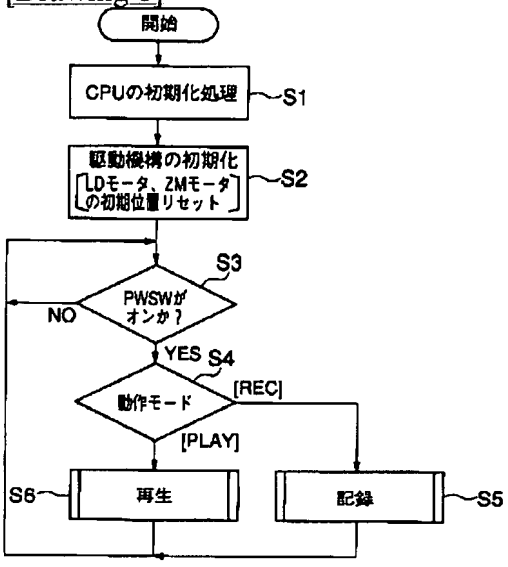
(a)

No	操作釦
0	A SPOT
1	B FLASH
2	C W
3	D T
4	MODE
5	⏻
6	△
7	◁
8	▽
9	▷

(b)

7 2 6 9 5

[Drawing 8]



[Drawing 12]


パパ／0

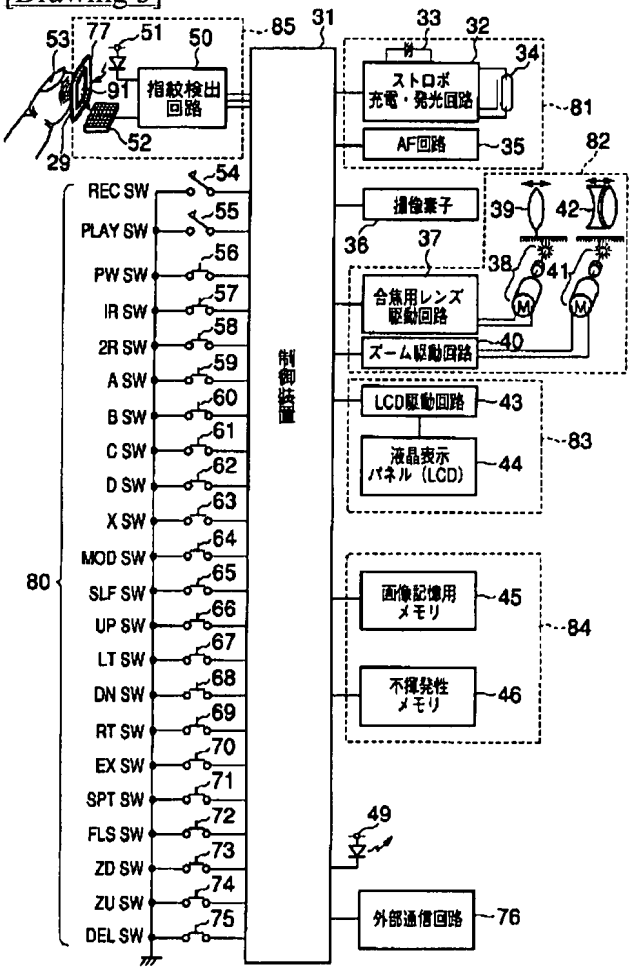

ママ／1


兄／2

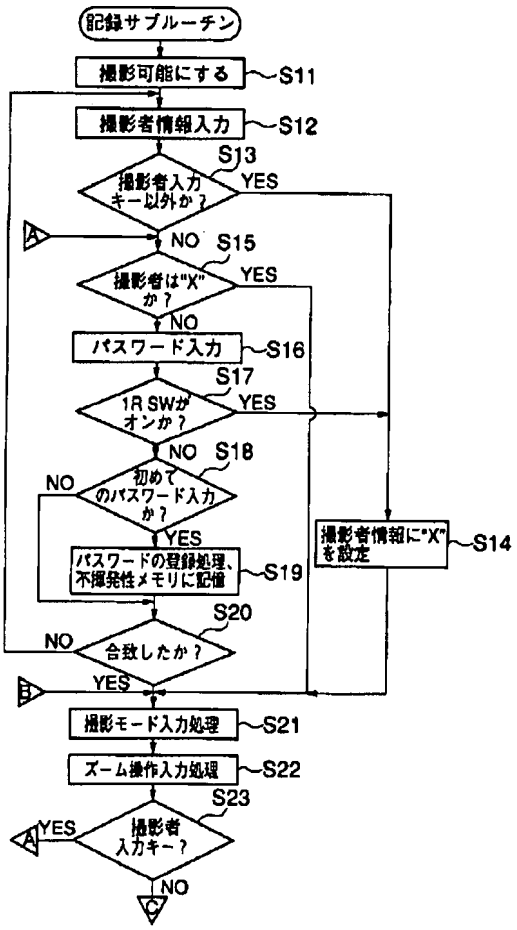

妹／3


ゲスト

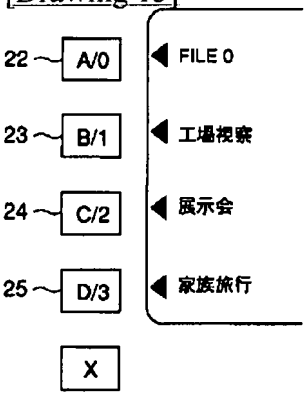
[Drawing 3]



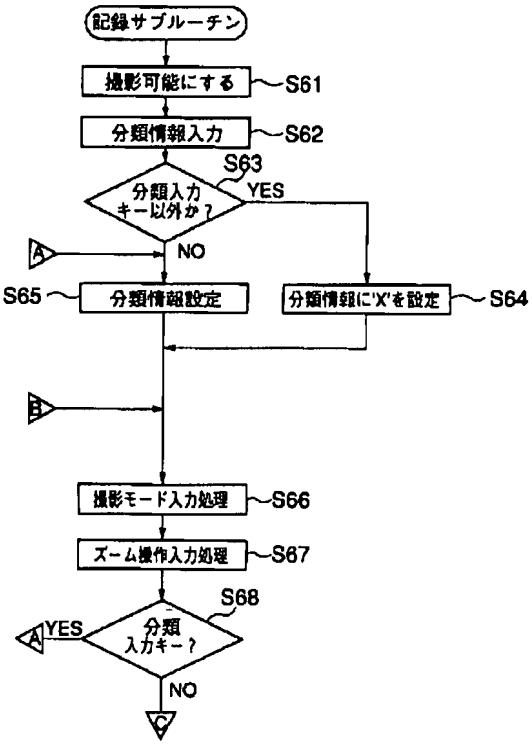
[Drawing 9]



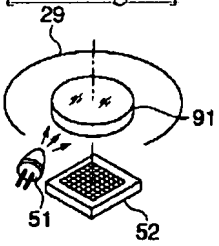
[Drawing 13]



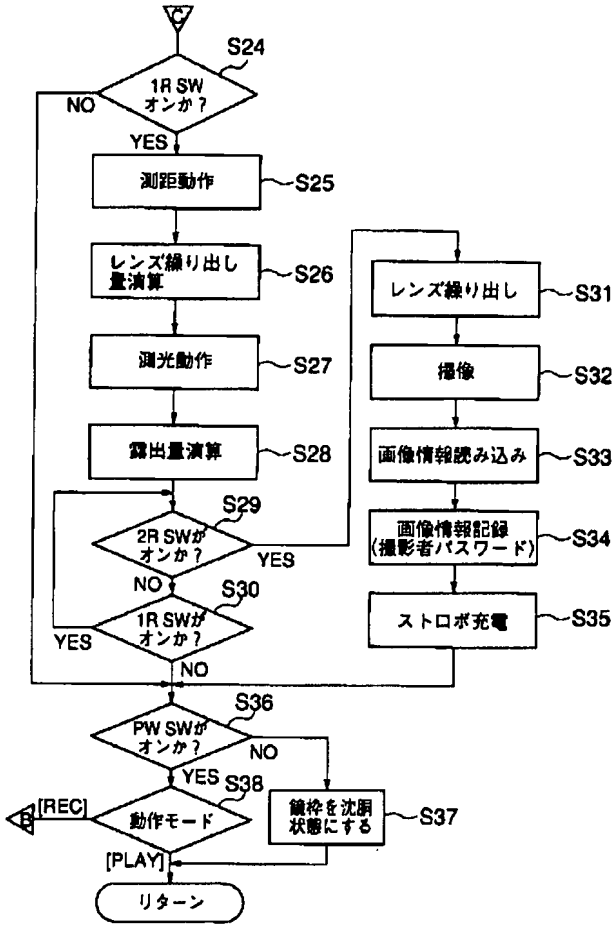
[Drawing 14]



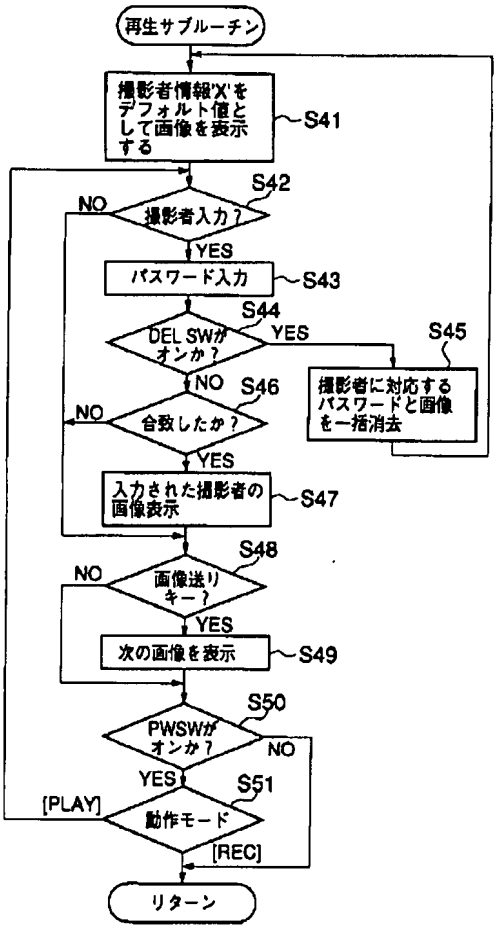
[Drawing 18]



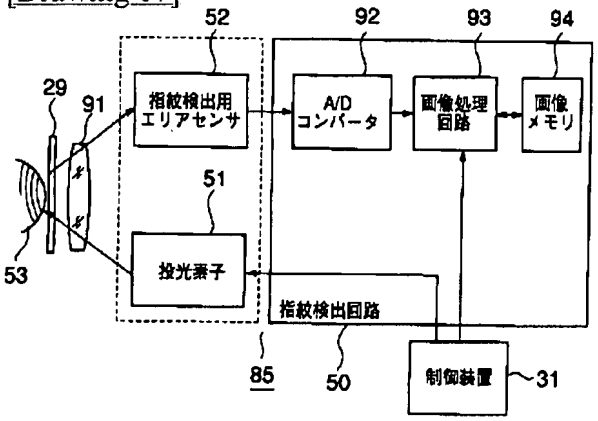
[Drawing 10]


C
S24
1R SW オンか？
NO
YES
測距動作
S25
レンズ繰り出し量演算
S26
測光動作
S27
露出量演算
S28
S29
2R SWがオンか？
YES
NO
S30
1R SWがオンか？
YES
NO
レンズ繰り出し
S31
撮像
S32
画像情報読み込み
S33
画像情報記録（撮影者パスワード）
S34
ストロボ充電
S35
S36
PW SWがオンか？
NO
YES
S38
[REC]
B
動作モード
[PLAY]
鏡枠を沈胴状態にする
S37
リターン

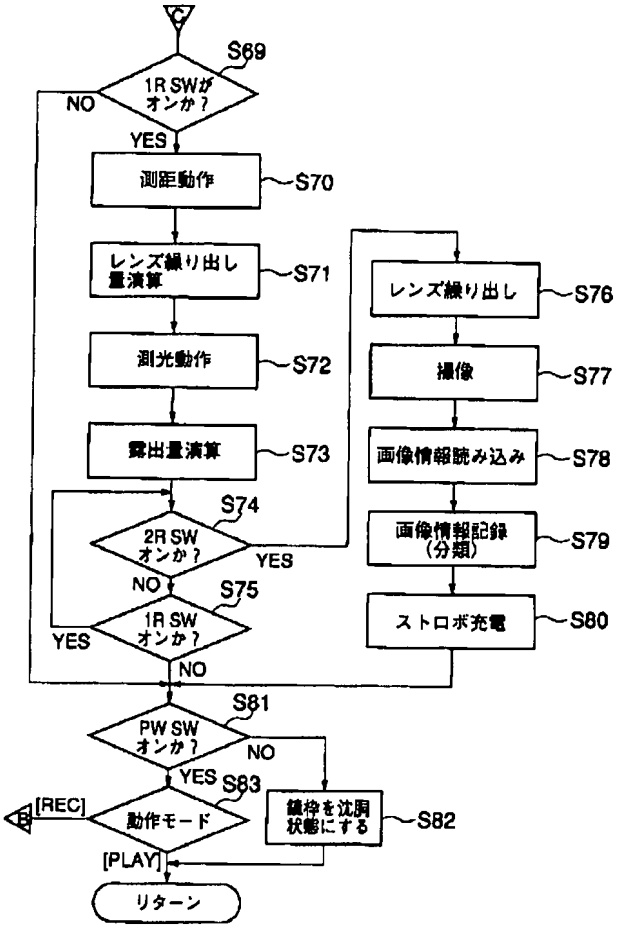
[Drawing 11]



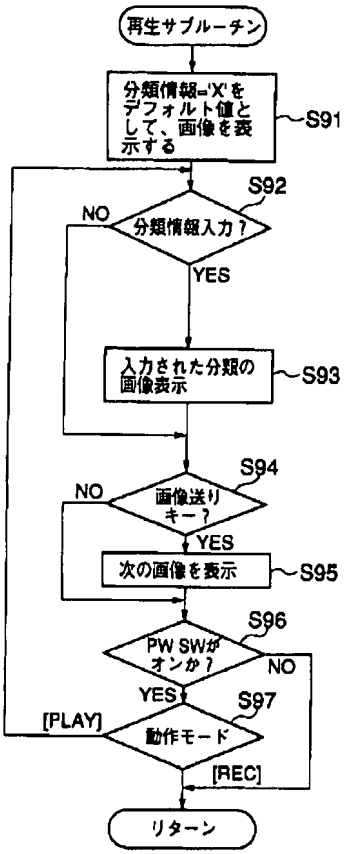
[Drawing 17]



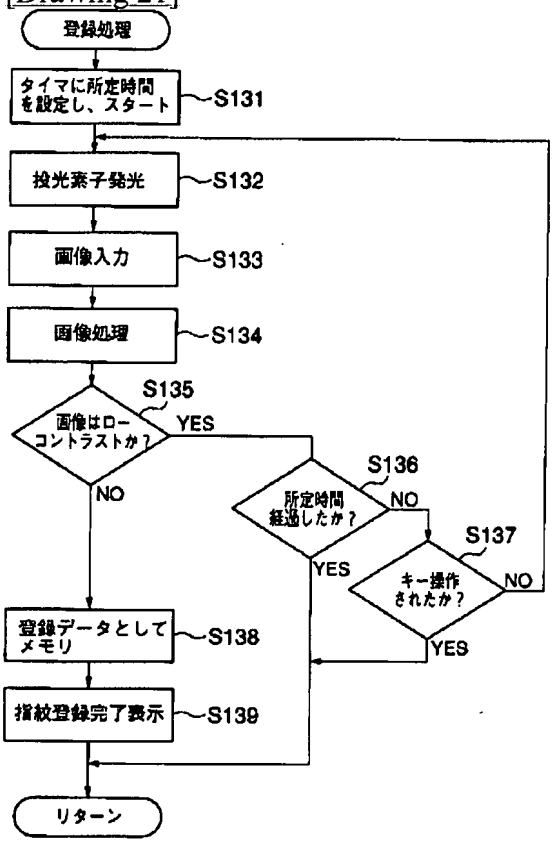
[Drawing 15]


C
S69
1R SWが
オンか？
NO
YES
測距動作
S70
レンズ繰り出し
量演算
S71
測光動作
S72
露出量演算
S73
S74
2R SW
オンか？
YES
NO
S75
1R SW
オンか？
YES
NO
S81
PW SW
オンか？
NO
YES
S83
[REC]
動作モード
[PLAY]
絞枠を沈胴
状態にする
S82
リターン
レンズ繰り出し
S76
撮像
S77
画像情報読み込み
S78
画像情報記録
（分類）
S79
ストロボ充電
S80

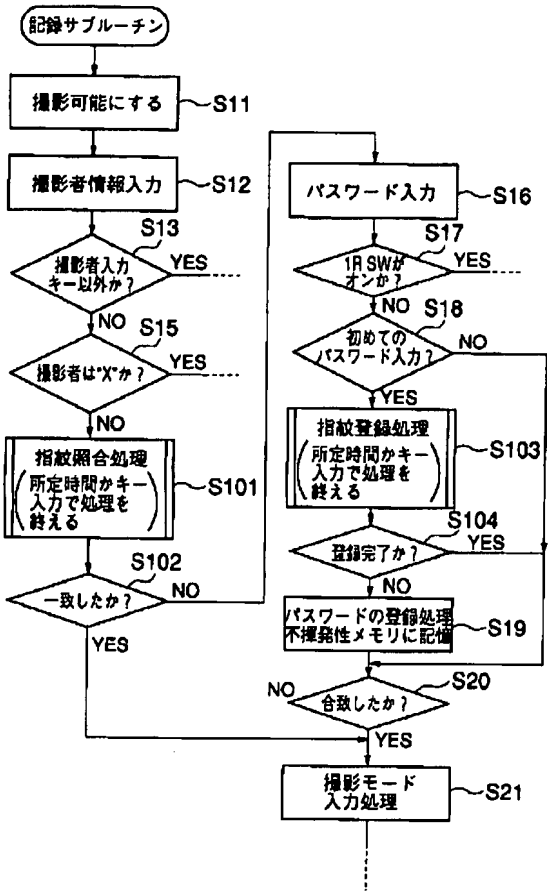
[Drawing 16]



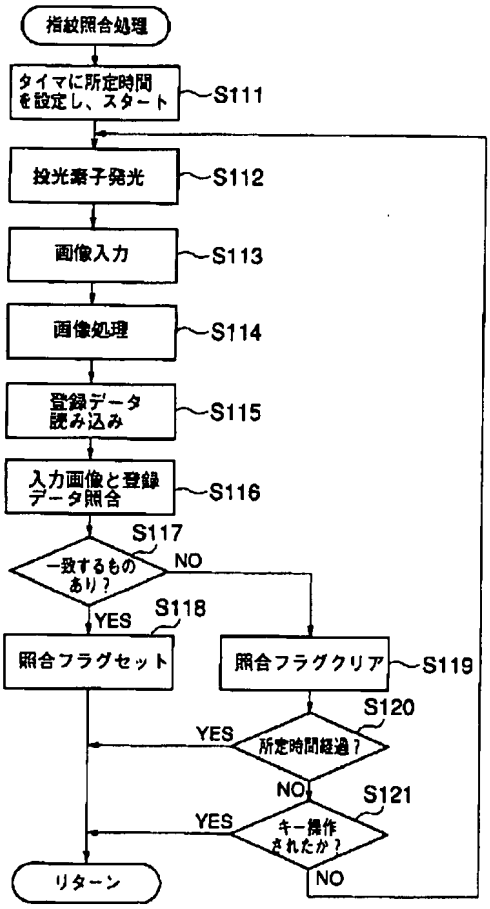
[Drawing 21]



[Drawing 19]


記録サブルーチン
撮影可能にする
S11
撮影者情報入力
S12
S13
撮影者入力キー以外か？
YES
NO
S15
撮影者は"X"か？
YES
NO
指紋照合処理（所定時間かキー入力で処理を終える）
S101
S102
一致したか？
NO
YES
パスワード入力
S16
S17
1R SWがオンか？
YES
NO
S18
初めてのパスワード入力？
NO
YES
指紋登録処理（所定時間かキー入力で処理を終える）
S103
S104
登録完了か？
YES
NO
パスワードの登録処理 不揮発性メモリに記憶
S19
NO
S20
合致したか？
YES
撮影モード入力処理
S21

[Drawing 20]



[Translation done.]